

# Light and Lighting

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One Shilling and Sixpence

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## Home Lighting

IT is said that charity begins at home, and certainly that is where good lighting should begin. The welfare of all in the home—the children, the housewife, the old folks and, last but not least, the earner of the wherewithal for maintaining the domestic establishment—is affected by the home lighting. Good lighting is not necessarily more costly than bad lighting and it may be actually cheaper—even on direct costs. Much bad home lighting is due to ignorance, needless cheeseparing, sheer inertia, or bad taste; although bad building and town planning are, of course, responsible for the poor daylighting of many homes. A wide range of domestic lighting “fittings,” “fixtures” or “units” (can no one name these things more pleasingly?) of good appearance and reasonable efficiency is now available. Among contemporary home lighting installations it is interesting to note a new version of the old adjustable pendant light, but what is more noticeable is the freer use of transportable instead of fixed lights.

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# Notes and News

## One-Day Summer Meeting

A new venture on the part of the I.E.S. is a one-day summer meeting arranged by a number of the Centres in the Midlands to take place in Nottingham on Friday, July 10. The President of the Society, Dr. W. J. Wellwood Ferguson, will preside at the morning and afternoon meetings and also at an informal dinner in the evening.

The suggestion to hold this meeting arose from the biennial Summer Meetings of the Society held in different parts of the country which have been so very successful. Many members of the Society, however, find that for one reason or another they cannot attend these meetings and enjoy the high standard of technical papers or the opportunities for social intercourse which they offer. Inquiries showed that there would be support for a local one-day meeting.

The technical meetings at Nottingham will take place in the Great Hall of the University, which has been placed at the disposal of the Society for the day. Lunch will be taken in the main dining-hall. At the morning session Prof. H. Cotton, head of the Department of Electrical Engineering at the University, will give a paper on colour in lighting; in the afternoon a paper on the eye, nerves and brain will be given by Mr. H. Asher, Lecturer in Optics at the

Medical School of the University of Birmingham. The delightful surroundings of the Nottingham University will make an ideal place for this meeting.

For the benefit of ladies attending the meeting arrangements have been made for a tour of the Halls of Residence during the morning. In the afternoon there will be a choice of visits either to Newstead Abbey, the ancestral home of Lord Byron, or to one of the largest pharmaceutical factories in the country.

Attendance at this meeting is not restricted only to members of the participating Centres but is extended to all members of the Society. Full details of the programme, registration fees, etc., will be made known in due course but in the meantime those wishing for further details may obtain them from Mr. K. J. Goddard (City of Nottingham Lighting Department, 3, George-street, Nottingham) who is honorary secretary of the committee organising the meeting.

## Next I.E.S. Meeting in London

The next I.E.S. sessional meeting in London will take place at 6 p.m. on Tuesday, April 14, at the Lighting Service Bureau, 2, Savoy Hill, W.C.2. At this meeting a paper on Sports Lighting will be presented by Mr. M. W. Peirce. Costly equipment and exceptionally high intensities are required only when large numbers of spectators are involved; effective lighting for play can be simple and inexpensive. The paper will deal with both indoor and outdoor sports.

## Newspaper Quizzes Aid Colour Science

The human material for two of the three papers on defective colour vision presented at a recent meeting of the Physical Society's Colour Group was obtained with the help of the widely read journals *Picture Post* and the *Daily Express*. By quizzing readers about their

colour vision these journals were able to put colour vision experts—Professor W. D. Wright and Mr. R. A. Weale—in touch with a number of persons possessing rare forms of colour defect which are of great scientific interest. In this way Prof. Wright had obtained extensive information about tritanopia or blue-blindness, and in the first of the Colour Group papers he and Dr. L. C. Thomson had applied these results to make a new determination of the spectral sensitivity curves of the three colour mechanisms present in the normal eye. Their curves, compared with earlier ones obtained by a similar method but with inadequate data on tritanopia, fit in better with evidence from other sources and represent a distinct advance. Mr. Weale's paper dealt with a form of complete colour blindness known as cone monochromatism which is not accompanied by photophobia and nystagmus. The three cone monochromats he had found through the *Daily Express* proved to have spectral sensitivity curves which were significantly different for small (15 min.), but the same for large (80 min.), matching fields. From this and other experimental evidence Mr. Weale concluded that the cone monochromat probably possesses retinal end-organs of more than one spectral response type—so that, in theory, colour discrimination would be possible—but that the nervous mechanism beyond the end-organs is lacking in some way. In the final paper Dr. Kalmus showed that although the inheritance of colour defects provides some of the best examples of the operation of genetical principles, there are still many anomalies the explanation of which should throw light on both colour vision and genetics. Dr. Kalmus mentioned that in following up Prof. Wright's tritanope material he had found that, unlike the much commoner types of colour blindness (protanopia and deutanopia), tritanopia was not passed on as a male-sex-linked inheritance. It was manifest about as often in women as in men. The discussion was notable for the absence of any reference to other

forms of blindness to which readers of particular newspapers might be subject!

### *I.E.S. Annual Report*

Annual reports seldom make exciting reading and are not the kind of thing one settles down to on a Sunday afternoon unless one suffers from insomnia. From their very nature such reports follow very much a set style. The I.E.S. report for 1952, just published, gives the usual review of activities during the year, but gives at least a hint that to maintain these activities even at their present level new members must be obtained. The net increase in membership during the year was very small, but bearing in mind that we all think twice before paying any subscription these days this fact is not surprising. However, if every member of the society made an effort to get at least one new member from amongst his colleagues and acquaintances who are concerned with lighting, the next Council report should be able to show a very satisfactory increase in membership. We would mention that interest in the I.E.S. might be aroused by getting people in the first place to subscribe to *Light and Lighting*, which may be done either direct or through any bookseller.

### *Lighting of Pedestrian Crossings*

The I.E.S. meeting to discuss the lighting of pedestrian crossings, which was postponed from February 25, will now take place at 6 p.m. on Wednesday, April 29, at the Lighting Service Bureau, 2, Savoy Hill, London, W.C.2.

### *C.I.E. Proceedings*

The International Commission on Illumination has indicated that a few copies of the Proceedings of the 1931, 1939 and 1948 meetings are still available. Anyone who is interested in acquiring these volumes is asked to communicate with the secretary of the National Illumination Committee, Mr. L. H. McDermott, National Physical Laboratory, Teddington, Middlesex.



*The reception room in the new Time and Life building in London.*

Th  
ha



## Time and Life Building, London

The new *Time* and *Life* office building in London, now the main European headquarters of the Time-Life International publishing organisation, was recently formally opened. Situated at the corner of New Bond Street and Bruton Street, it is a free-standing, seven-storey building with windows on all four sides, resulting in good daylighting conditions inside the offices.

The architect of the building, Michael Rosenauer, began work on the project in 1950 and, in 1951, Sir Hugh Casson and Misha Black joined him to direct a group of leading British artists and designers in organising the interior design and equipment of the building, including the lighting. The list of designers and artists makes impressive reading. The results are also impressive, though perhaps few organisations contemplating building new offices would be able to engage such an all-star cast.

This is the first post-war building in London in which the architect and designers have not been hampered by licensing restrictions. A good deal of money has been spent on it, more, no doubt, than would be spent by most organisations requiring the same area of new office accommodation.



*The staircase  
hall.*



*The main staircase from the first-floor landing.*

Much of it was probably spent on effect—and if effect was required, then it has been achieved. Nevertheless, this building shows just what can be done and will, no doubt, influence the design of future new offices—so many of which are badly wanted in London alone.

From the entrance hall a wide staircase leads to the first-floor landing which, in turn, leads into the main reception room, one wall of which is fully glazed. This window is covered at night by curtains 20 ft. high and 50 ft. wide which are lighted from above by a suspended pelmet board a few feet below the ceiling and two or three feet from the curtains. This board conceals nine 5-ft. fluorescent lamps lighting the curtains and

an equal number on top of the board, concealed from view below, to throw light on to the ceiling. Suspended from the ceiling on the other side of the main reception room is a large lighting panel, made by H. H. Martyn, which conceals a number of fluorescent lamps giving indirect light on to the ceiling. "Perspex" lenses in diamond formation give life to this panel, short fluorescent lamps being arranged over the lenses. The panel is finished in tooled and brass-studded Vaumol cowhide. One of the illustrations (p. 124) of this room also shows the lighting of the curtains covering the window on the stairs and staircase hall.

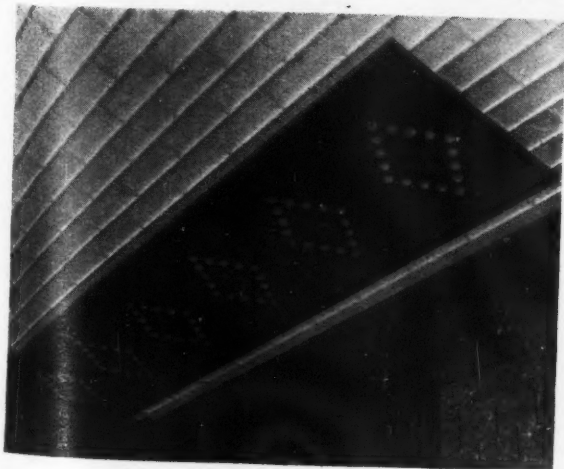
The offices themselves have been planned round the central core of the building with

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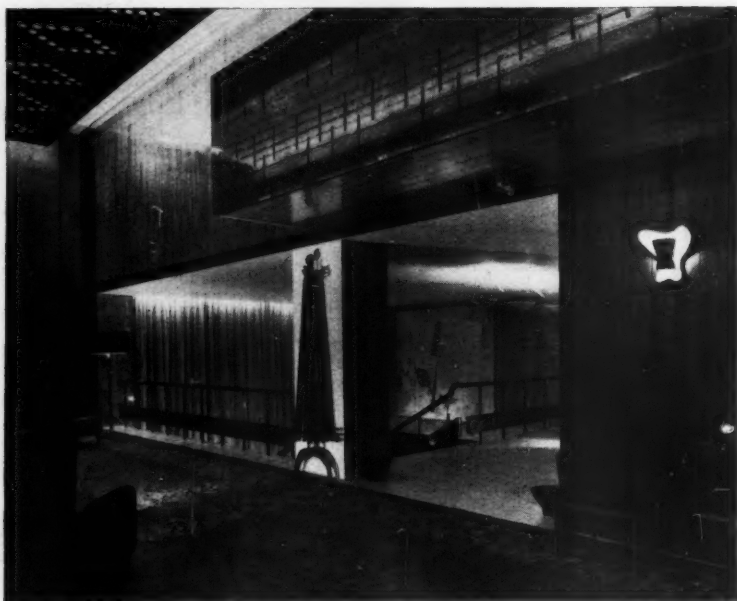
# LIGHT AND LIGHTING

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The reception room,  
showing the curtain  
lighting.



Close-up of suspended  
ceiling lighting panel  
in reception room.



*(Above) View of reception room looking towards the landing and staircase.*

both permanent and movable partitions. Offices of senior members of the staff and rooms such as libraries are divided with permanent partitions; other areas, however, are kept as flexible as possible with movable steel and glass partitions. Some departments are only partially separated from the corridors by means of wood-and-glass screens.

The conference room (designer H. T. Cadbury-Brown) on the first floor is a dignified space without any great contrasts of colour. It is panelled in Tasmanian Blackwood and the furniture is of mahogany and calf leather. The large circular table is of black ebonised mahogany covered with black calf leather. Lighting is provided from recessed tungsten fittings in the ceiling and a measure of sparkle is given by inverted prismatic glass fittings mounted on thin metal supports on the window walls.

The office of the London Director is fully glazed on two walls facing south and east; glare from the windows is minimised by the use of venetian blinds and by the use of a medium tone wood (wych elm) for the panelling of the other two walls. Lighting is

*(Below) Close-up of wall bracket lighting fitting in reception room.*

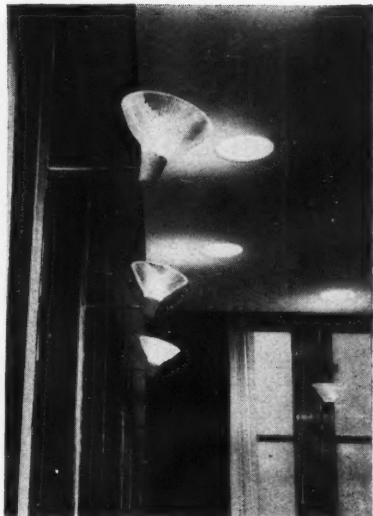


from semi-recessed tungsten ceiling fittings, made by Oswald Hollmann, and there is an adjustable fitting over an informal conference table. The design of this room was by Sir Hugh Casson and Misha Black.

The illustration of part of the general offices shows the open type of planning used. It will be noticed that tungsten lighting fittings are used throughout the general offices. The corridor fittings, also tungsten, were specially designed by the Design Research Unit. The designers of the general offices were Misha Black and Alexander Gibson.

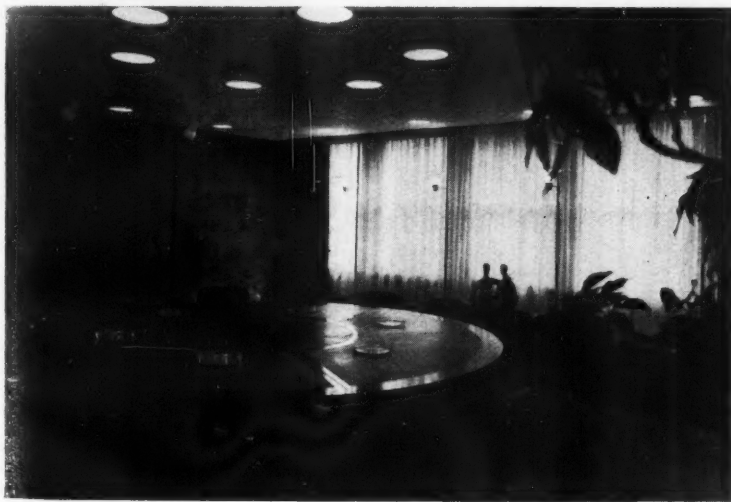
The office of the Bureau Chief (designer Robin Day) is the kind of office everyone would like to have. Again there are two glazed walls fitted with venetian blinds. The room is divided into two zones—the executive's own working area and an area for conferences. This division of the room is emphasised by a suspended reinforced plaster ceiling over the conference area. This lower ceiling conceals fluorescent lamps to give indirect lighting over the office and is fitted with spotlights for the conference table.

Other offices and rooms in which lighting



(Above) Holophane fittings and flush louvered ceiling fittings in conference room.

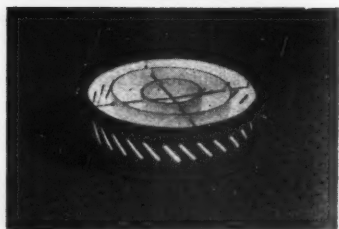
(Below) The conference room.





*The office of the London Director.*

*(Below) Adaptation of G.E.C. and Merchant Adventurers' fittings by Ward and Austin in the Picture Editor's office.*



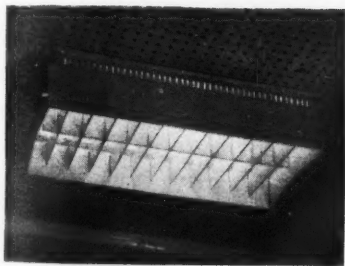
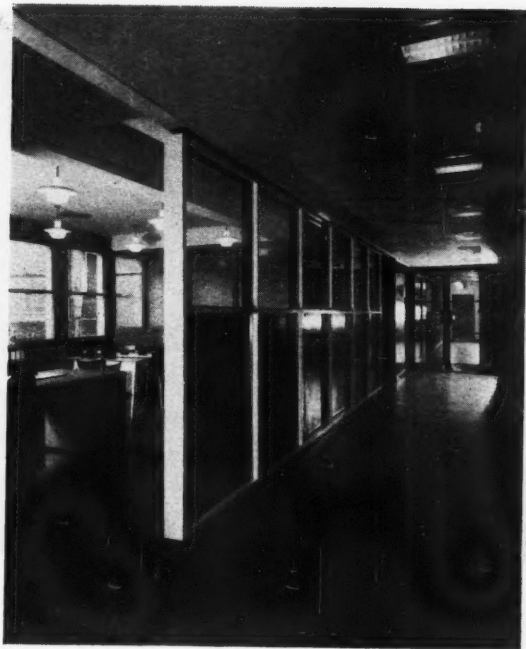
*(Above) Ceiling light in the London Director's office.*

was incorporated into contemporary design include the office of the *Life* Picture Editor, where the lighting is by an adjustable suspended fitting over the desk and by flush lights in the ceiling over map walls and in a deep soffit of one long window. The design team for this room was Neville Ward, Frank Austin and Mary Ward. The Directors' dining-room and ante-room (Leonard Manasseh and Ian Baker) are lit by flush fluorescent fittings running the length of the window walls immediately adjacent to the windows and also on the facing walls.

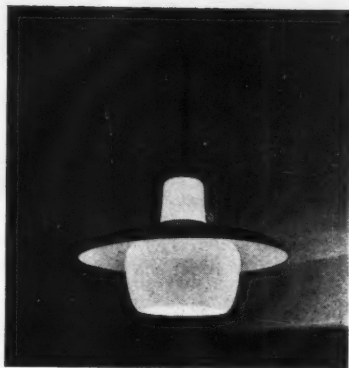
Another impressive feature of the building



*View of the general  
offices.*



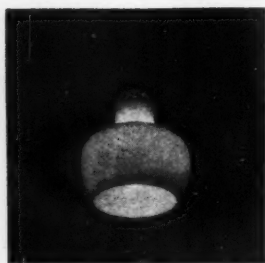
*(Above) Ceiling light designed by  
Design Research Unit for general  
corridors.*



*(Right) Merchant Adventurers' fit-  
ting for general office lighting.*



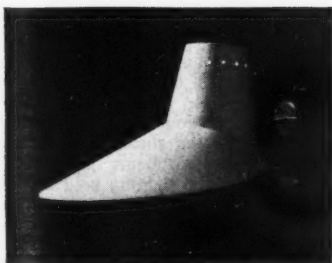
*Office of the  
Bureau  
Chief.*



*Merchant Adventurers' fittings used in (above) tele-  
printers' room and (centre) washrooms.*

*(Right) Specially designed desk light.*

*View of the cafeteria.*



*Fitting specially designed for lighting dining tables in the cafeteria.*

is the exterior display windows, one of which consists of a weather window which by ingenious method gives the weather conditions all over the British Isles. This was designed by James Cubitt and Partners.

Other designers and architects concerned are Neville Condor, Patience Clifford, Robin Dunn, Olive Sullivan, Robert Maxwell, Ellis Miles, John Diamond, R. W. Finch, Peter Gray, and Clifford Hatts.

Competent designing throughout the building gives a light, free-moving and efficient effect. The use of colour has been admirably handled and the lighting arrangements are, in every case, well planned and original. The *Time and Life* building has been a challenge to our architects which they have met with great success, showing to the world that, without the burden of restrictions, shortage of labour and materials, the work of British designers is as imaginative and progressive as anywhere else in the world.

# THE DOW PRIZE

**The results of the first Dow Prize Competition were announced earlier this year. The entries for the competition were displayed and discussed at a recent meeting which is reported below.**

A special sessional meeting of the Illuminating Engineering Society was held at the Lighting Service Bureau on Wednesday, February 25, in connection with the first award of the Dow Prize. The results of the 1952 competition were announced in the February issue of *Light and Lighting*.

The competition subject was, "The layout, artificial lighting and decoration of the ground-floor showroom of a sports shop in a provincial city," and it was emphasised that the competition was primarily an exercise in collaboration between those who were principally interested in the artistic and in the technical sides of the subject respectively.

The site plan given was intentionally somewhat unusual, with a slope from back to front and a north aspect. The requirements of the shop owner were set out in some detail and a strong preference was expressed for the elimination of the conventional shop window, so that the whole of the shop interior could be visible from the street. Each team had to submit, in addition to a number of drawings, an explanatory report on their scheme.

The number of completed entries received was 26 and the drawings (accompanied in two cases by scale models) were displayed in a room adjoining the lecture theatre where the meeting was held so that those present had an opportunity of seeing the work submitted. Many of the competitors were there and were able to compare their own efforts with those of others. It was generally agreed that this was a very valuable feature of the meeting and that it added considerably to the interest of the assessors' subsequent reports.

## John Stewart Dow

The meeting was opened by the president who, after the formal business and his own

introductory remarks on the origin of the competition, called on Mr. H. C. Weston to give an appreciation of the life and work of John Stewart Dow, in whose memory, and by whose generosity, the Prize was founded.

Mr. Weston recalled that Dow had been assistant editor of the "Illuminating Engineer" from its commencement in 1908 and that at the inaugural meeting of the Illuminating Engineering Society, when responding to the toast of "The Illuminating Engineer," he had said that he was speaking on behalf of a profession that did not then exist. The fact that it enjoyed a very flourishing existence to-day was in no small measure due to Dow and his self-sacrificing and untiring work for the Society. It was his boast that he had never missed a Council meeting. In 1942 he was made an Honorary Member and for the session 1946-47 he filled the office of president. At his death in 1948 he made the Society a very generous bequest, and it was this that had made the foundation of the Dow Prize possible.

## The Competition

Dr. Walsh then gave a brief account of how the form of the competition had been evolved. He said that the Council had desired to use Dow's bequest in a way that would both further the aims of the Society and, as far as could be judged by those who knew him best, would be such as Dow himself would fully approve. After very long discussion and the consideration of many alternative proposals, it had been decided to establish a competition which would involve collaboration between students of illuminating engineering and students in some other profession for which lighting held a special interest. That might be the electrical engineering profession, it might well be the medical profession, but on this occasion it was the architectural profession, and the event had shown that this was a very happy arrangement. He congratulated both the Society and the competitors on the work exhibited.

The president then called on the assessors,

the Hon. Lionel Brett, M.A., A.R.I.B.A., and Mr. R. O. Ackerley, F.I.E.S., for their reports on the work submitted for the competition

### The Architect Assessor's Report

Mr. Brett first referred to the fact that the problem set had several somewhat awkward features about it, and he had looked at the entries to see whether these difficulties had been adequately exploited. When, later, he had been able to find out the composition of the various teams, he had been interested to notice that those which did not include an architect had generally failed in this respect. The best designs divided the space into three parts. That in the front was treated in a bright colour to attract the customer, the central selling space had a somewhat higher illumination than the front, while towards the back the illumination was again reduced.

Three outstanding faults were mentioned. A shop, said Mr. Brett, was not an exhibition, and the treatment should be quite different. Then the use of arbitrary shapes should be avoided. These were fashionable in certain circles, but were, in his view, a temporary affectation and gave a very unsatisfactory impression. Finally, there was the excessive "plugging" of one idea which destroyed the balance of the scheme and he instanced one entry with an excessively elaborate ceiling plan.

On the subject of colour, Mr. Brett said that he had been disappointed to notice an excessive use of "muddy" colours. There seemed to be an idea that bright colours were vulgar, but the fact was that, while the treatment of broad areas should be restrained, small patches of bright colour relieved monotony and created a certain liveliness and interest.

After some hints on the method of presentation Mr. Brett said that he hoped no competitor would consider that his work had been wasted if he had not received an award. He might feel assured that the experience he had gained, and particularly the experience in collaborating with others in a different profession, would be of immense value to him in the future.

### The Illuminating Engineer Assessor's Report

Mr. Ackerley opened his report by pointing out that any design, to be successful, must appeal to the owner of the shop. A design was of no use unless it would work. The artist's conception had to be realised in a form that would enable the lighting to

be done satisfactorily, and every entry had been looked at from the engineer's point of view as well as the architect's. Speaking broadly, there were five criteria which a design was expected to satisfy. First of all, it was important that the lighting should be attractive from the outside, i.e., from the street. In all the winning entries there was something to catch the eye from a distance. Secondly it was essential that the designer should appreciate that light could be measured; some competitors apparently did not know this, or at least they didn't give any indication that they knew it. Thirdly, the interior should be cheerful, with a bright "selling" atmosphere. Fourthly, the use of light for placing emphasis where desired should not be neglected, and, fifthly, it had to be remembered that the cost of a scheme was not unimportant, so that extravagance or over-elaboration was a disadvantage.

Turning then to the entries submitted, Mr. Ackerley said it was interesting to notice how well these illustrated the point that collaboration between the architect and the illuminating engineer was of the first importance in the production of a satisfactory scheme. Speaking generally, the entries which had been rejected almost at once by Mr. Brett had proved to be by teams in which no architect was included while, correspondingly, those which he himself had condemned at once proved to be from teams without an illuminating engineer. While naturally there were exceptions, the point was well brought out that neither profession could do without the other. The outstanding exception was the entry by an architect working alone, which had been commended. Mr. Ackerley here made the suggestion that, if this architect had collaborated with an illuminating engineer they might well have won the Prize.

Mr. Ackerley then went on to criticise the entries in some detail. He mentioned the failure to use lighting for emphasis and complained that often competitors had not given enough information about their lighting for him to judge whether it would work or not.

### The Presentation of the Prize and Certificates

After the conclusion of the assessors' reports, the president presented the Prize and certificates to the members of the winning team and to those whose entries had been commended. The "highly commended" entry was from South Africa, so that the members of the team were unable to be present. The names of the successful competitors were given in the February issue of *Light and Lighting* (p. 42).

# DOW PRIZE WINNER

## Submitted by

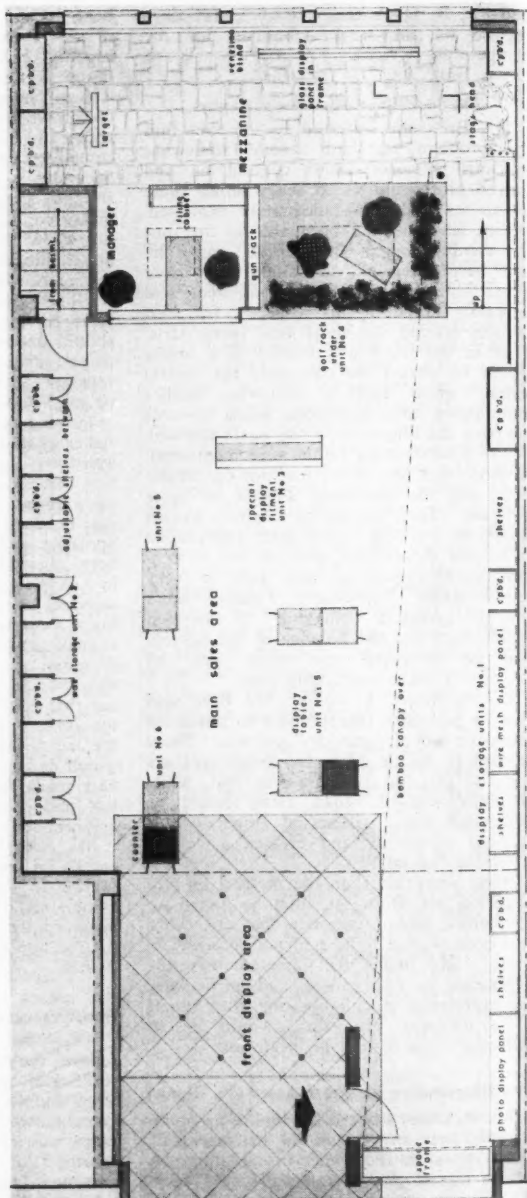
W. D. Tyrrell  
T. A. D. Bindon  
E. W. Uglow  
S. M. Gray  
C. G. Crowfoot  
R. G. Smith

In this design the shop has been divided into three basic areas—front display, main sales and mezzanine and an attempt has been made to use light to influence the apparent physical size and environment by varying brightness patterns, together with different ceiling levels. The electricity load is 2.4 watts per sq. ft.

### Front Display

The front display is emphasised at night by a pattern of 25-watt lamps piercing the ceiling, giving about 8 lm./ft.<sup>2</sup> of general illumination. In order that maximum flexibility is obtained in the presentation of merchandise all important focal areas have provision for local lighting.

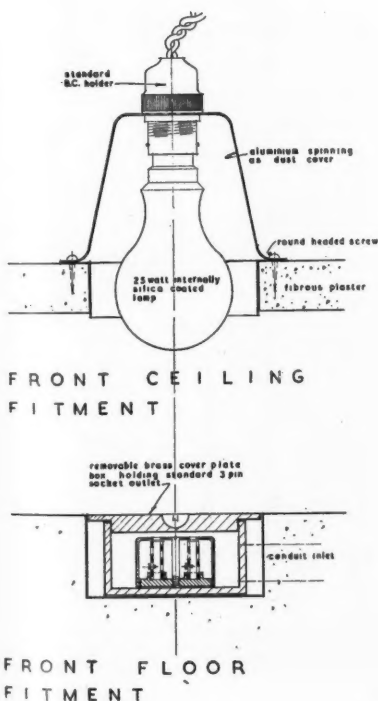
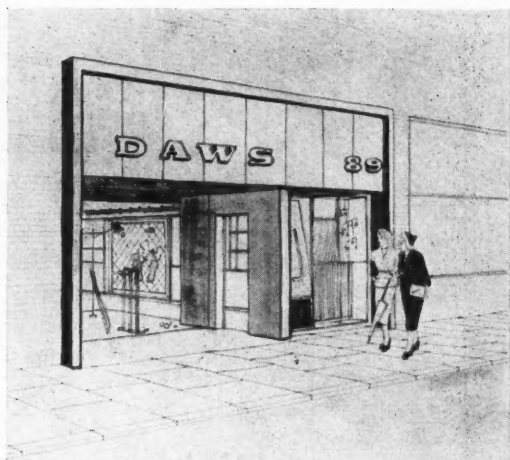
The equipment pro-



Plan of Main Shop Area.



### Perspective of Shop Front.



vided for display is a series of fixings in the ceiling and in the floor, between which spring-loaded hooked wires are stretched. The floor fixings also act as cover plates to boxes containing 5-amp three-pin plugs, into which either floor standards or reflector fittings, attached to the wires, can be plugged. Thus flexibility of display and the ability to give strong local illumination where required can easily be achieved anywhere over the front of the display area.

### Main Sales Area

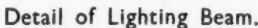
The illumination here is provided by lighting beams using 4 ft. 40-watt hot cathode fluorescent lamps. The aim was to provide (1) a lighting system completely integrated with the interior, (2) a low brightness 25 lm./ft.<sup>2</sup> installation, and (3) an effect of airy spaciousness above the lighting system. The beams are fabricated in 20-gauge and 18-gauge mild steel. The cut-off in the short axis is 55 deg. and the use of detachable anodised aluminium baffle plates gives a cut-off in the long axis of 22 deg. The design is intended to allow for a good degree of upward lighting.

### Display Storage Units

Unit 1 runs the length of the shop and incorporates concealed fluorescent lamps in frames to provide emphasis lighting.

Unit 2 is a shallow wall storage unit making the provision of local lighting un-





Unit 5 incorporates a luminous square in the main table with fluorescent lamps fastened to the under-side of the table, together with control gear, the metal surround being pierced to attract attention. Unit 6 is somewhat similar.

Louvered panels are partly recessed into cavities in the false ceiling. The panels are formed of prismatically moulded polystyrene trips, the lower edge of which is set one inch below the ceiling line so that a certain amount of light is refracted on to the ceiling, lessening the brightness contrast. Above these panels are hot cathode fluorescent lighting units with reflectors.

## The Dow Prize

# Highly Commended

### Submitted by

R. S. Yates

J. Yorke-Hart

The main principles which the designers of this scheme had in mind was simplicity and ease of circulation. The stair to the mezzanine floor dictated the position of the entrance and enabled the designers to plan the circulation in the form of two circles linked with a common tangent. The shop window was splayed for ease of entry, whilst the cornice to the main floor was splayed to indicate the direction of the flow of circulation.

The displays were designed on the principle that light objects on a dark background, and dark objects on a white background draw attention more readily. The stock was kept out of sight from the public on account of its untidiness when stacked; a number of drawers and small cupboards were, however, provided in the shop.

The finishes were chosen so as to reduce upkeep to a minimum; the materials being chosen from those easily obtainable in South Africa.

The general lighting of the shop is a mixture of indirect from cold cathode tubes

and direct from general service tungsten lamps. The former are mounted above a ceiling 2 ft. 6 in. below the existing concrete and the light is reflected from another ceiling 18 in. above the first. The cold cathode lighting consists of four rows of tubes, two daylight, one sky blue and one gold, but it is intended that only three be used at a time; the area below the cold cathode tubes is for general display, and the lighting can be altered to suit the display, e.g., the daylight and gold tubes for a warm summer effect and the daylight and sky blue for a cold winter effect. The level of illumination on the display area from the cold cathode tubing alone would be between 13 and 15 lm./ft.<sup>2</sup>, whichever combination of three colours is used.

The rest of the general lighting is by 150-watt general service lamps in port-hole type fittings with acid-etched glass visors. The level of illumination with the combined systems of lighting would be 18 lm./ft.<sup>2</sup>. The front section of the shop near the window is, in addition, lit by a double row of daylight fluorescent lamps mounted above the ceiling and directed inwards. Four eyeball fittings are used to accentuate any special features of a display that might be set up near the window.

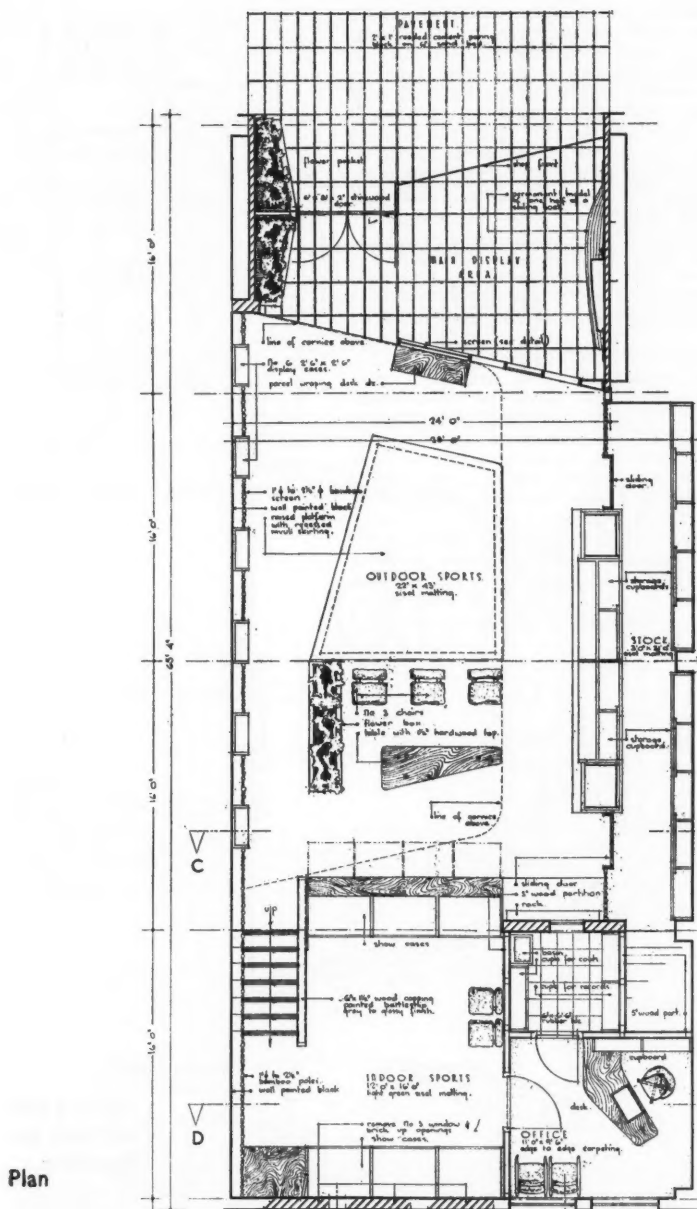
To light the model ship on the east wall, four "anglelite" fittings with 150-watt G.S. lamps are mounted 2 ft. from the ceiling and directed on to the model.

The flower-box and the name of the shop on the west wall are lit from above by recessed "downlights," with circular louvres.

The mezzanine floor is lit by a square fitting. It is formed from 12 30-watt industrial fluorescent fittings mounted together in the form of a square, flush with the ceiling. An acid-etched glass visor covers the lamps. The level of illumination on this floor is 14 lm./ft.<sup>2</sup>. As the area is to be used for sales of indoor games the lighting can be of a warmer tint, therefore natural fluorescent tubes are used. Mounted in each of the ornamental cornices is a single strip of intermediate cold cathode tubing to illuminate the cut-out sections in the cornice.

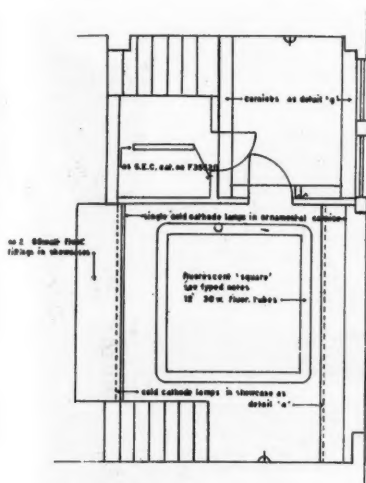
All showcases are lit internally by daylight fluorescent tubes, hot cathode in all but the two showcases on the mezzanine floor, which are lit from the front by cold cathode tubes, placed on the floor of the showcase.

The manager's office is lit by two cornices, each containing two rows of daylight fluorescent tubes, switched independently for









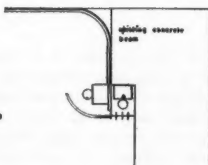
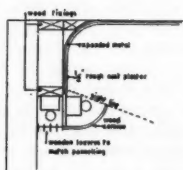
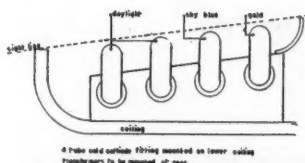
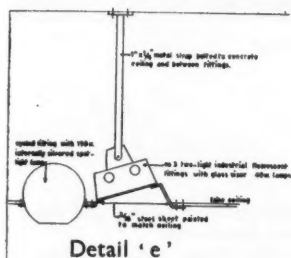
Lighting Plan for Mezzanine

indirect and/or direct lighting. The level of illumination here can be varied between 10 and 30 lm./ft.<sup>2</sup> according to which system is used or a combination of both.

The basement is lit generally by three 8-in. bowl fittings, containing 100-watt G.S. lamps, giving enough light for passage through the area. These are on two-way switching providing for access from either entrance. When work is being done at either the work bench or the despatch table, or when stock is handled, individual lighting can be switched on for these areas. There is a bulkhead fitting mounted outside above the door, to provide some light on the pavement should any goods be required to be loaded or off-loaded during hours of darkness.

The stock shelves on the east wall of the shop are lit by angle fluorescent fittings mounted on the ceiling, directed on to the opposite set of shelves. All the switches for the shop are mounted on a switchboard near the showcase on the east wall.

The sign over the front of the shop is made from sheet-iron, each letter in the form of a channel. Inside the channel is a red neon tube in the shape of the letter. The front is covered with acid-etched glass, transformers to be mounted in the ceiling at the back of the sign, access to which is gained by a trap door in the ceiling.



Detail 'g'



Perspective of Interior.

**The Dow Prize****Commended****Submitted by****D. S. Bottomley**

The designer of this scheme has treated the shop much as a stage set considering the customers as the theatre audience and setting an atmosphere which will hold their attention from outside and attract them into the shop. The scheme adopted is intended to

allow flexibility of lighting and decor within the given framework.

The floor is set out in a framework of equilateral triangles of pre-cast terrazzo, varying in colour to divide the shop into "colour areas." These floor slabs are separated by plastic dividing strips and have 2-in. circular sockets at their junctions, set into the floor screed previous to the slabs. These sockets receive the 2-in. diameter tubes of all movable shop fittings, which enables the layout to be changed within limits, allowing fittings to be aligned down the shop depth or at an angle of 60 degrees to the axis of the shop; it is not possible to place fittings across the shop as this would impede both traffic flow and the view from the street. Ring plugs are used on the unused sockets to provide a smooth surface. The mezzanine

floor is close carpeted to capture the indoor atmosphere for the indoor games.

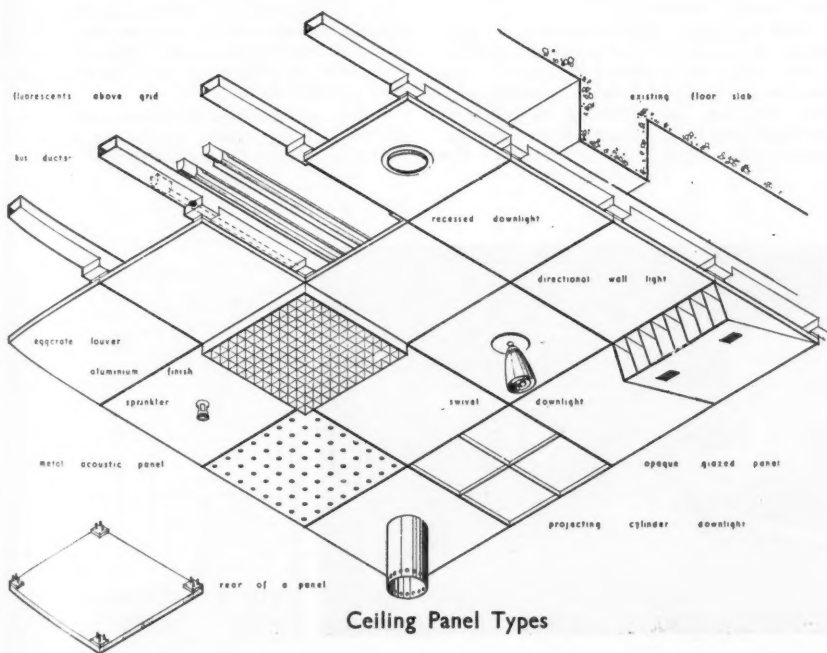
The ceiling is set out in modular 2 ft. x 2 ft. panels which are interchangeable for light or texture and pattern. Each panel is provided with a plug at all four corners which fit into the sockets provided in groups of four along hollow bus ducts running down the length of the shop and suspended from the floor slab above. Panels with light fittings are wired accordingly; those without, such as metal pans, wood panels and acoustic panels, are not wired and simply use the plugs as fixing devices to form a completely flush ceiling over the sales area. The entrance ceiling is treated delicately with downlights in cylinders following the street line but having only secondary interest and being a lead-in to the main display area, rather like dim houselights in a theatre, defining the boundaries of the enclosed space.

The walls down both sides of the main

sales area are given adjustable panels and glass shelving respectively left and right from entrance. The layout is intended to be flexible; seasonal changes would call for the display of particular goods and varying degrees of prominence could be effected. With each change of fitting layout there would be freedom to light the items displayed as requisite, and a competent window designer could lay out the shop areas as dictated by the trade or fashion.

Although indoor games have been set in the mezzanine apart from the main sales area, there is nothing to prevent their being moved further forward should this ever be found to be more convenient.

Storage is provided in the basement and on the mezzanine to serve both floors. The mezzanine storage uses the existing windows to light it and prevents them becoming a nuisance to the shop in general.



Ceiling Panel Types

## The Dow Prize

# Commended

## Submitted by

J. D. Vale

N. E. Wilkinson

### Design

A spacious and unsophisticated atmosphere is felt by the designers to be important and the shop has been planned to incorporate these features, allowing for the maximum of floor space. In order that customers and assistants may move freely from one part of the shop to another and handle and examine equipment under the best possible conditions.

Less formality, and the saving of floor space, is created by not using the conventional type of window enclosure. The window itself is set back at a slight angle into the shop, thus allowing the passer-by to stand away from the general flow of pavement traffic when looking forward. The

plant arrangement immediately behind the window acts as a frame to the interior.

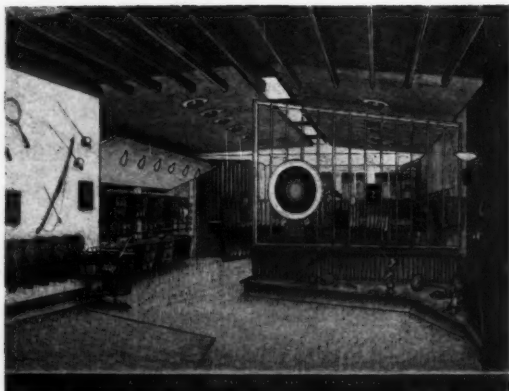
The display of equipment is an important feature throughout the shop and the two main display sections are both within easy visual range of anyone who may be passing. One of these sections is a white panel, set against the east wall next to the window on to which can be clipped various types of sports equipment thus forming an interesting pattern. This well-lit display has the added advantage of being visible to the passer-by long before he actually comes in front of the shop. The other main unit is a low display platform at the rear of which is a large vertical screen where other sports items may be clipped. The whole of this unit projects on to the floor and the rear of the shop can be seen through it. The customer, upon entering, is directed by the line of this unit towards the main service section.

### Lighting

Bearing in mind the main function of the shop with its various types of display and storage units, the main illumination scheme has been divided into two categories—general lighting and display lighting.

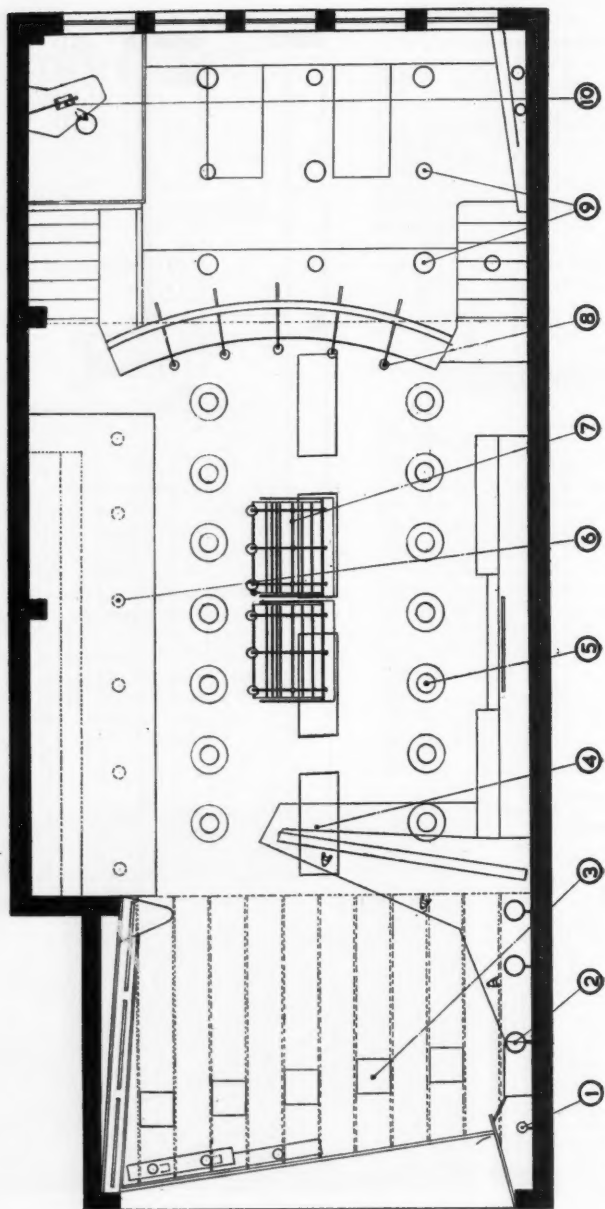
In the main ceiling illumination plan, no attempt has been made to conceal the fittings. The providing of an overall efficiency combined with an interesting plan has been the chief consideration.

The reception area at the front of the shop is served by five square cell fittings accommodating circular fluorescent lamps. In the



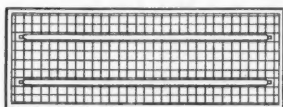
Perspective of Interior.



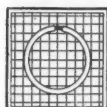


Lighting Plan.





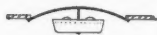
4 HIGH FLUORESCENT FITTING ACCOMMODATING 8 1/2" 80W WARM WHITE FLUORESCENT TUBES FITTING CONSTRUCTED IN SHEET STEEL AND SPRAYED WHITE. FITTING COMPLETE WITH DETACHABLE LOUVER. CONTROL GEAR MOUNTED IN TOP OF FITTING IN A REMOVABLE TRAY FOR EASY MAINTENANCE AND CLEANING. LOUVER IS OF TRANSPARENT POLYSTYRENE BUILT UP FROM INTERLACING SECTIONS.



3 SQUARE CELL FITTING IN SHEET STEEL ACCOMMODATING ONE 16" CIRCULAR FLUORESCENT LAMP WITH DETACHABLE POLYSTYRENE LOUVER FOR MAINTENANCE CONTROL GEAR IN TOP PANEL.



5 CEILING FITTING CONSTRUCTED FROM 2 SPUN BRASS, TOP SPRUING. FITTING AN INDIRECT TYP. REFLECTOR. ACCOMMODATING 2 60W 8 1/2" COUL. COIL LAMPS.



5 SECTION SHOWN ABOVE SHOWS METHOD OF FIXING THE FITTING FOR MAINTENANCE AND CLEANING THE WHOLE UNIT HELD IN POSITION BY 3 FIXING SCREWS.



9 CEILING FITTING IN TWO GLASS ACCOMMODATING 100W & 75W LAMP SIDE



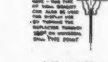
6 COUNTER TYPE METER. SHOTS: ONE 60W LAMP



11 SECTION OF BASEMENT SPOTLIGHT



MOBILE SPOTLIGHT WITH SPUN REFLECTOR AND ONE 60W 8 1/2" COUL. COIL LAMP



2 DISPLAY AREA WALL FITTING. SECTION OF LECTOR IN SPUN ALUM. 100W SPRAYED BLACK TOP REFLECTOR WHITE



8 SECTION COUNTER-BALANCE REFLECTOR ACCOMMODATING 60W LAMP



main sales area two types of fittings have been employed—flush fittings (fluorescent cell units) and indirect (filament bowl type units). To offset the dark ceiling immediately around the fluorescent cells, the ceiling slopes off either side at an angle of 5 degrees. Into this ceiling the indirect bowl fittings have been placed; the polished metal reflector is an integral part of the unit.

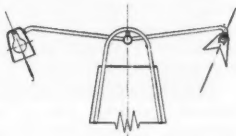
Above the mezzanine area the fittings are of the flush type and are in two sizes.

In general, where fluorescent fittings have been installed, the control gear has been mounted within the fitting. However, on certain items, particularly in the display lighting, provision has been made for the installation of remote control gear. Fluorescent lamps used are of the warm white variety with instant start control gear.

10 HANGLERS OFFICE SPECIAL TELESCOPIC AND SWING TYPE TABLE LAMP. THE UNIT IS FIXED TO THE WALL AND THE TWO ROOST ARE INTERLACED TO ENABLE 1' 0" EXTENSION. PUSH TYPE SWITCH IS INCORPORATED IN WOODEN HANDLE



MOBILE DISPLAY STAND SCALE 3/4" = 1' 0"



7 MOBILE DISPLAY LIGHTING - SECTION THROUGH TOP OF DISPLAY SHOWING MOVABLE TUBE TYPE OF BRACKET; HOLDING REFLECTORS ACCOMMODATING 2 75W & 1 4' 0" FL. LAMPS

SCALE 3/4" = 1' 0"

1 FIRE AND SAFETY STORE WALL BRACKET USING TOP CONICAL SHIMMING IS REFLECTOR ONE 60W 8 1/2"

# Home Lighting

**In this article the author makes some interesting comments on present-day trends in the design of modern lighting fittings for the home.**

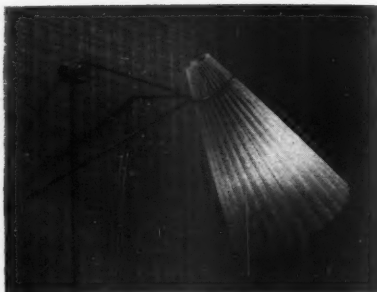
By Mark Hartland-Thomas\*

The current trend in the design of light fittings has gone back to the early days of electric light, but of course with a difference. Confronted with the newly-invented electric bulb, the first designers saw its lightness and adaptability and made much play with its inherent advantages. They rather oddly chose to regard the electric bulb as the centre of a flower and designed wall-brackets, chandeliers and table-lamps with long curling stems and brass leaves around the bulb like a calyx and corolla. The bulb was unshaded and everything glittered. They also went in for counterbalanced pendants, adjustable up and down. The flower motif was far from unsuitable and their cult of lightness and adjustability hit upon exactly the things that electric light could do better than its predecessors.

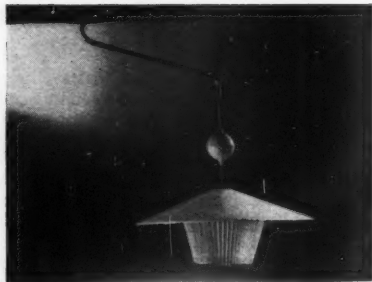
Then manufacturers made the lamps more "efficient" so that they were too bright to be left unshaded and we entered the long period of botching about with opal glass to cut back the unwanted brilliance. This began with additions to the branching designs of the early period and continued right through the severely subdued and built-in fittings that went with the architecture of the thirties.

Now we are branching out again. The current trend is for a branching spidery lightness, adaptability of adjustment to suit the modern multi-purpose room and a certain engaging irrationality, which amuses itself with functional shapes or deliberately flouts efficiency—just for fun. We have recaptured the idea of sparkle, which the early designers employed, having outgrown

\* Chief Industrial Officer, Council of Industrial Design.



*Wall-light designed by E. Cooke-Yarborough and Ronald Holmes for Cone Fittings Co. The flex is gripped in the wall-button and the wire frame with rubber feet rests against the wall. The lamp can be pointed up or down, raised or lowered on the flex and turned this way or that. The translucent acetate shade is kind to the eyes.*



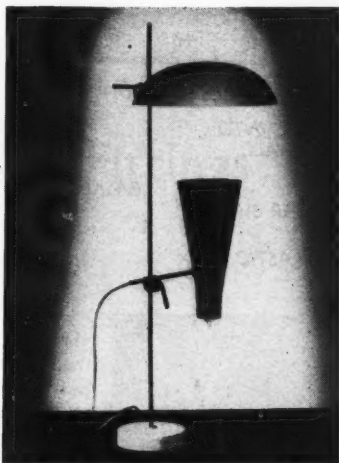
*Swivel pendant fitting by Oswald Hollmann. Adjustability up and down and round about. This could be very useful in a conversion job if the ceiling rose is not in just the right place for the dining-table in the new bed sitter. The plastic reflector and buckram shade are nicely designed to distribute the light without glare.*

the monotony of indirect lighting and the bad science of shadowless illumination (shade and shadows are an indispensable aid to three-dimensional vision) whilst having learned on the way something of the science of brightness-contrast.

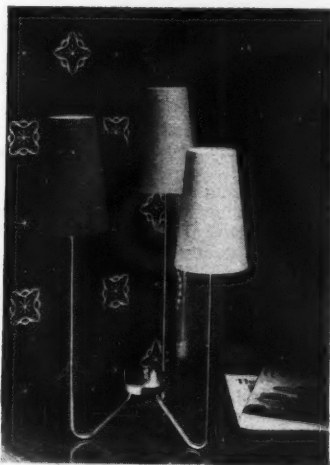
By adjusting the relative brightness of surfaces seen together, especially those near the source of light and those adjacent to the actual plane of work, it is possible to allow more lumens to escape from the fittings, so that not so many watts are wasted as used to be. It must always be remembered that there are two kinds of efficiency—the crude efficiency of the photometer reading logged against the number of watts consumed and the comfort of the human eye at its task of seeing. Fortunately few designers now stop short at the former—suffering as we used to say from “foot-and-candle” disease; the majority who design either fittings or installations pay attention to the efficiency that really matters, that of seeing. But, like anything else in which the human factor has to have preference over the simplicity of scientific measurement, it is very much more complicated, for inevitably an emotional or artistic element enters in.

For example, this question of sparkle. It has been found by experiment that the eye gets tired more quickly in the monotony of too perfect illumination and does better if there is a small element, not too much, of glitter. Is this a simple physical stimulus to keep the optic nerve on the job or is it emotional stimulus for people who would otherwise get bored with the day's work, or is it an artistic effect—the scheme with contrast and sparkle being prettier to look at? One has only to pose the triple alternative question to realise that the distinction is unreal: you cannot divide the emotions from the eyes in this way, even theoretically. So we are driven to the conclusion that your illuminating engineer, because he has people to serve, not things, must be a bit of an artist or he will not even achieve efficiency.

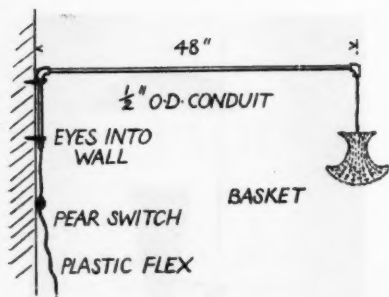
The foregoing remarks apply to lighting schemes in general, not to domestic only. But they are even more important in lighting a living-room, which in these days of house-shortage is nearly always a multi-purpose room, than an office or factory. Variety and changeability are essential in home lighting. As an example, I am showing a sketch of a fitting that I rigged up at home. I apologise for its crudity, but it illustrates several points. There was a central ceiling rose with an old-fashioned bowl fitting. We moved this out of the centre into a corner over a sofa. (In



*Table-lamp designed by John Reid for George Forrest and Son, Ltd. This little lamp promotes acute controversy: the reminiscence of a laboratory fitting infuriates some, others it intrigues.*



*Table-lamp by H. C. Hiscock. The cardboard shades are cellulosed in a variety of colours. Although these are opaque, the brightness contrast is lessened by light from the other two falling on the outside of the shade; not a fitting to be judged too harshly from the standpoint of efficiency.*



*A home-made fitting. The swinging-arm fittings in the shops never have a long enough outreach. This one stretches four feet and, mounted above the fireplace, can swing round over a chair on either side. The flexible is loose in the conduit, so that the light can be pulled down low for fine work. It is crude, but very cheap and easy to make.*

*Ceiling fitting by George Forrest and Son, Ltd. Abstract "mobile" sculpture is here turned practical, giving the long outreach denied to current wall-brackets. Perhaps in many rooms it would dominate the scene too much: but in a room where all else is subdued to let it have its fling, it could be most successful. There is no doubt of its utility.*



passing, I would mention that the centre of the ceiling is the worst possible position for the light in every single room in the house, even the W.C.) My swinging light over the fireplace gives an entirely different quality of light, sparkling through its rather absurd basketwork shade, from the diffused light of the bowl on the other side of the room and the bright patch of ceiling over it. This variety of light is agreeable in the room and the swinging arm with its adjustable pendant gives adaptability of use. In addition, we have a floor standard.

The George Forrest "Mobile" fitting has a similar effect, and is, of course, much more elegant than mine. There is room for many more fittings like this and the Hollmann pendant, which are designed to conquer the awkwardness of the central ceiling rose of the inevitable electrician. Until the widely swinging or adjustable wall-bracket came into being, I used to think that the American fashion of having nothing but plenty of plug outlets for standard and table lamps was the best solution, avoiding fixed positions altogether, especially in the ceiling. There is still much to be said for it. A ceiling free

of clutter gives a fine scale to the room; you can see there the size and shape of it without anything intervening.

The sitting-room is not the only room in which light is frequently wanted in different positions and in which cross lighting is an aid to seeing. In the kitchen light is wanted at the sink, at the cooker and over the table. Local cord-switches are convenient here, so that you pull on the light you want as you work. These switches are cheaper to install than a switch carried back to the door and are very convenient. They might be used more frequently in houses.

Summing up the best current practice in home lighting, I would say that ideally there should be an outlet in each of the four walls of every room, so that the occupier can easily obtain variety and adjustment of light—and to him I would say there is no single perfect lighting scheme for any of your rooms: choose fittings that let you change the light to suit the task or the mood; and, lastly, don't be ashamed to have some fittings with a touch of charming absurdity—even if they are not, strictly speaking, too efficient.

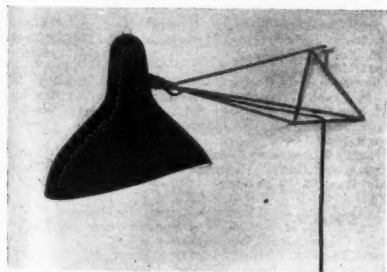
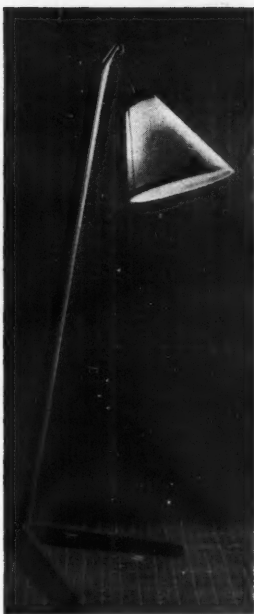
# Contemporary Home Lighting Fittings

**Describing a selection of home lighting fittings seen at a recent exhibition in London.**

At the beginning of the year an exhibition of contemporary domestic lighting fittings was held at the Building Centre in London. Some 50 fittings were on show including table lamps, wall lamps, and standard lamps, and ranging in price from under £2 to over £30 each.

Not everyone feels at ease with contemporary fittings, whether they emanate from this country or overseas—and this is believed to be the first exhibition of its kind in this country, though we have heard much of trends in fittings design in other countries. We can imagine that not a few people will be a little shy of some of the fittings shown at Store Street—but even they may feel happier if the designers, in addition to offering something unusual looking, could also offer something cheap. What we use in our homes is very much a matter of personal choice, but we have to consider the bank balance as well; a standard lamp made from flexible metal rods taking up a lot of floor space is at a great disadvantage when compared with a simple wooden standard doing

*Adjustable floor standard designed by Nigel Walters for Primavera. Constructed in wood. Shade is in beech or plane veneer and is adjustable.*



*A lightweight "clip-stick" wall lamp, for a picture rail or to hang from a hook. Designed by Bernard Schottlander.*

the same job of lighting and costing roughly a third as much.

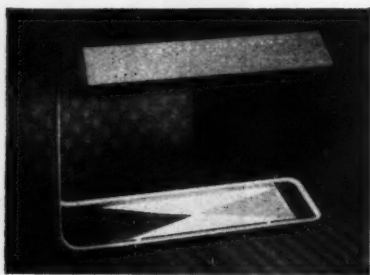
But not all the new designs were expensive. A favourite of the exhibition was a wall fitting costing only a couple of pounds and which, though new, was simple in the extreme. Some, however, although made of simple components, managed to have fancy prices attached. Too many of the fittings had adjustable components, or too many adjustable components, and it was impossible in many cases to understand why. Some



(On left) Adjustable desk lamp taking up a minimum of base space. Shade and flex are supplied in matching colours. Designed by Bernard Schottlander.



(On right) Adjustable table or desk lamp taking minimum surface space, finished satin silver throughout. Designed by Merchant Adventurers.



Troughton and Young writing table lamp in metal coloured in white, lemon-yellow, and grey.

table fittings took up little table space—others spread themselves indiscriminately. One table lamp had such spindly legs that the table on which it was standing had been very badly scratched.

There is a tendency to house lamps in very small reflectors, with the result that the arrangement gets very hot. The advantages of this are not very obvious, but it is understood that these types of fittings are known to the designers as "hot fittings," so that apparently the heating effect is not considered to be a drawback.

There is, however, an obvious trend towards neater fittings and many of those on show will no doubt become very popular. Some of the fittings exhibited are illustrated here.

## Forthcoming I.E.S. Meetings

### LONDON

#### April 14th

Sessional Meeting. "Sports Lighting," by M. W. Peirce. (At the Lighting Service Bureau, 2, Savoy Hill, W.C.2.) 6 p.m.

#### April 29th

Informal Meeting. Discussion on lighting of pedestrian crossings. (At the Lighting Service Bureau 2, Savoy Hill, W.C.2.) 6 p.m.

#### May 12th

Annual General Meeting. Address by Mr. D. C. B. MacLurcan, A.R.I.B.A., Past-President of the I.E.S. of Australia. (At the Royal Society of Arts, John Adam Street, W.C.2.) 6 p.m.

### CENTRES AND GROUPS

#### April 9th

MANCHESTER.—"Glass—an Old Material in a New Light," by P. M. Davidson. (At the Demonstration Theatre of the North Western Electricity Board, Town Hall Extension.) 6 p.m.

NOTTINGHAM.—Presidential Address by W. J. Wellwood

Ferguson. (At the Demonstration Theatre of the East Midlands Electricity Board, Smithy Row, Nottingham.) 6 p.m.

#### April 10th

HUDDERSFIELD.—Annual General Meeting. (At the Electricity Showroom, Market Street, Huddersfield.) 7.15 p.m.

#### April 13th

SHEFFIELD.—"Horticultural Applications of Light," by A. E. Canham. (Followed by Annual General Meeting.) (At the Medical Library, Sheffield University, Western Bank, Sheffield, 10.) 6.30 p.m.

#### April 15th

NORTH LANCASHIRE.—Annual General Meeting. (At the Preston and District Chamber of Commerce, 49a, Fishergate, Preston.) 7.15 p.m.

#### April 17th

BIRMINGHAM.—"Discharge Lamps for Particular Purposes," by E. H. Nelson. (At Regent House, St. Philip's Place, Colmore Row, Birmingham.) 6 p.m.

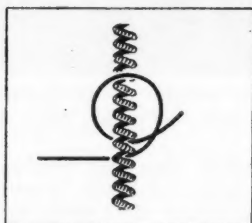
#### April 21st

LIVERPOOL.—"Shop Window Lighting," by A. W. Jervis. (Joint Meeting with the British Display Association.) (At the Lecture Theatre of the Merseyside and North Wales Electricity Board's Service Centre, Whitechapel, Liverpool, 1.) 6 p.m.

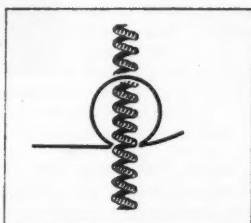


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*The new method with the closed loop support ensures that none of the filament is short-circuited, whether the lamp is burning with cap up or cap down.*

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# Ideal Home Exhibition



*Floor standard designed by Christopher Heal, in painted metal with conical paper shades.*

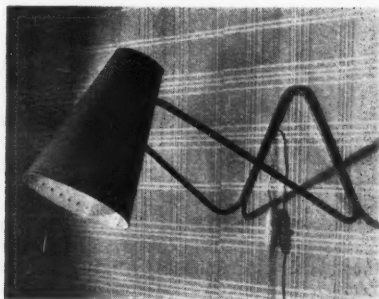
The Ideal Home Exhibition, the most popular retail exhibition of the year, was held last month at Olympia, London.

Throughout the exhibition the fact that this is Coronation year was very much in evidence. The theme of the decorations in the great hall was indeed "royal." Impressive ranks of heraldic banners of all the English cities bordered the main avenue which, covered with a 300-ft.-long red carpet, led to the main feature of the exhibition. This was the "Coronation Cavalcade"—a replica, one third life size, of the State Coach with horses, liveried walking men and the uniformed Yeomen of the Guard. The cavalcade, nearly 100 ft. long, was perfect in every detail. It stood on a platform which was illuminated by concealed fluorescent lamps, and made an ideal centre-piece.

The most interesting part of this exhibition is always the village where houses, shops and an inn are constructed and fully

furnished. This year there were six homes including three by the Ministry of Housing—two houses and a two-storey flat unit. In all the homes seen the furniture used was contemporary, the colour schemes light and gay, with spring colours used a great deal. The use of a different colour or wallpaper for the fourth wall of a room was still popular. The lighting was, for the most part, good. Local lighting has been favoured—spindly legged floor standards and table lamps were everywhere. Where ceiling lights were used they were generally flush with the ceiling. It is still somewhat of a mystery to find those wicker-bird-in-the-cage-like fittings being used with such persistence as if they were smart when, in fact, they can only be cagey dust traps which succeed admirably in concealing at least 60 per cent. of the light output! Supplementary lighting was used to good effect especially behind pelmet boards; in one case, however, it was surprising to find the pelmet lighting was by double-ended filament

(Right) Table or wall light with a satin brass or painted frame. The metal shade is painted in mustard, red or navy.



(Left) Table standard designed by Edward Bull, with mahogany base, satin brass stem, with pleated buckram shade. The overall height is 12 in. Both lamps are from the Heal range, seen at the exhibition.

lamps instead of the now more usual and certainly more economical fluorescent lamps. Pleated shades were still popular; dining-table lighting was by adjustable pendant fittings directly over the table or, if the table happened to be against a wall, by wall fittings—sometimes adjustable, sometimes not. Adjustable wall fittings were used frequently especially in bedrooms, over beds and by dressing-tables. A very sensible fitting was the desk lamp in a small boy's bedroom which clipped on in mincer-like fashion to the table—thus secure from the careless reach of the child.

In all, the schemes for furnishing these houses were sensible, modern and liveable—with which, when talking of contemporary furniture, is not necessarily always the case.

The Coronation Inn which also formed part of the village was, apparently, the type of "pub" which will be found on new estates. It gave, however, the impression of being more like a Mayfair cocktail bar than a friendly "local" and, whilst it is agreed that there are few things worse than an imitation of Ye Olde English Tudor inn, a piece of London, W.1, in the heart of the country is surely one of them.

The exhibitors' stands themselves were better than ever. They were very well designed and well lit, the favourite form of lighting being adjustable spotlamps and fluorescent lamps used in moderation. Partly louvred ceilings for focal interest, rather

than the louverall ceiling so popular on last year's stands, were used successfully. An effective kaleidoscope display achieved by the use of mirrors and different coloured fluorescent lamps on a dimmer control system was used by the British Electrical Development Association for their stand.

Apart from perhaps half a dozen stands, the furniture displayed was not contemporary. This is an obvious reflection that the British public—slow to react to any change in style which to succeed with them must be gradual—are not yet "converted" and still prefer something homely and solid-looking. However, as far as contemporary furniture is concerned, British designers are going about it in the right way for their furniture and fabrics are imaginatively coloured, tastefully designed and well made and, in a few years time, should be as popular as their makers would wish.

The range of lighting fittings of contemporary design (some of which are illustrated here) are refreshingly new to us even if they are slightly under the influence of the Italians and Swedes. It seems that designers of lighting fittings are, as they should be, keeping up with their progressive-minded colleagues in the furniture world. It is most reassuring that the lighting fitting is now recognised as an essential part of any interior decoration scheme and not, as in the past, as a hasty afterthought. This is indeed encouraging.

## Correspondence

### Lighting Terms

To the Editor, LIGHT AND LIGHTING.

Dear Sir,—I give thanks to Mr. Besemer for his support to the "foot-candle." Messrs. "Dimwit," "Dimmerwit," and "Half Wit" have previously discussed the matter in lighter vein, but we can't shelve the matter indefinitely. I suggest that "lumen per square foot" is no more a proper substitute term for "foot-candle" than "foot-pounds per second" is a substitute for our old friend "horse-power." The point surely is that both "lumen per square foot" and "foot-pounds per second" are precise definitions whereas "foot-candle" and "horse-power" are no more than convenient names for units. The matter settles itself if we accept the distinction. Let us make peace with the foot-candle; let it serve as in the past, to bring the layman in on our discussions; and let those who so desire it continue to use the *definition* "lumen per square foot" in the interests of precision. The assumed conflict between the two did not exist until we created it.

I appeal for this on the further grounds that it will put an end to the fear that one or the other of the many exotic alternatives, of which "foot-lum" is by no means the worst, might actually be taken seriously. Finally, I appeal for it if only so that the average man interested in lighting can at least use a pocket lightmeter without having to study lighting theory. Perhaps the manufacturers of these instruments agree with me since they have shown little inclination to abandon "foot-candle" on their scales.

Surely all that is necessary is that the Illuminating Engineering Society shall cease to "deprecate" our old friend and shall let it be known that alternatives are not invited.

If I were not so much in earnest about this I should, as a gentle warning against further terminological exploration, sign myself "Nit wit." I am, however,—Yours faithfully,

London.

W. ROBINSON.

### Street Lighting and the Chatham Bus Accident

To the Editor, LIGHT AND LIGHTING

Dear Sir,—About this time last year I wrote to you on the subject of the street lighting which gave rise to the tragic mishap

to Chatham Sea Cadets in December, 1951 (LIGHT AND LIGHTING, April, 1952, p. 145). I was recently in Chatham once again after dark, and took the opportunity of seeing what improvement had been made. I was surprised to find practically no change. The same low mounting height, the same extremely wide spacing (up to 300 ft.), and merely the placing of two tungsten lamps in each fitting in place of the one previously in use.

Naturally, the slightly brighter spots under the lamps tended only to accentuate the pools of darkness between. The whole system of lighting is deplorable and suggests a complete absence of any reliable technical guidance in the matter. Having regard to the terrible mishap which brought this lighting to public notice, it is astounding that it should be allowed to remain in its present condition.

When the local authority has accepted the duty of providing lighting along a traffic route it seems ironical that the responsibility for safety should rest entirely on the shoulders of the motorist. Yet it is a fact that no car could be safely driven down this road after dark without at least one headlight being switched on.

In view of this and many other anomalies in street lighting, is it not time for some clarification of the legal position?—Yours, etc.,

ARTHUR CUNNINGTON.

Pulborough, Sussex.

## Obituary

C. W. SULLY

It is with great regret that we announce the death on February 28, at the age of 83, of Mr. C. W. Sully, a past-president of the I.E.S. Mr. Sully was Director of the Electric Lamp Manufacturers' Association from 1923 until his retirement in 1940. His electrical experience began in 1892, when he entered the works of Crompton and Co., Ltd., at Chelmsford. He made many visits overseas and for 12 years represented Siemens Bros. in South Africa. He was responsible for the formation of the Lighting Service Bureau in 1924 and read a number of papers at international meetings. He was elected president of the I.E.S. in 1933 and took an active interest in many other organisations.

## I.E.S. ACTIVITIES

### London

At the London meeting on February 10, Mr. David Medd, A.A.Dipl., R.I.B.A., presented a paper on "Colour in Schools."

The author began by stressing the now familiar plea for closer collaboration between the lighting engineer and the architect at the early design stage of a job. Architects, he said, need to take advice on the best way of achieving the right quantity and quality of lighting and colour choice is not entirely the prerogative of the architect or decorator. The architect wants to feel he is free to design in terms of light and shade with certain aesthetic considerations in mind. Brightness contrasts that would be intolerably disabling in certain spaces may be quite justifiable in others. Architects see in "Brightness Engineering," particularly as exemplified by American engineers, a restrictive attitude of mind which in its anxiety to remove any possible cause of discomfort will result in spaces that are very dull and at best be good for sleeping in.

The eye yearns for visual interest; many buildings to-day lack visual interest through lack of imagination, and an attitude of mind that says it must cost money, and all that is achieved is cream walls and mottled floors, relieved by fluorescent light fittings and green woodwork. However, there are signs that designers are realising that modern architecture is starved of visual interest, and that a form of decoration and enrichment must be established which springs naturally from present-day materials, techniques and economy. This is the right way and the difficult way. The easier way is to revive clichés from earlier periods or to invent them.

The provision of visual interest is made easier by exploiting a wide range of textures, colours and materials. The device of contrast to produce visual interest is one that can be used more. This design scope is vast and is insufficiently appreciated by many designers. Architects will not achieve visual interest in buildings until they are able to use the whole scale from the smoothness of glass to the roughness of stone, from the

darkness of deep shadow to the brightness of the sun, from the delicacy of pink to the boldness of scarlet, from the blackness of black to the whiteness of white.

In rooms or spaces where good vision is of prime importance the architect, with the help of the lighting engineer, must of course deploy the light source both natural and artificial, to ensure not only adequate illumination whenever required, but a balancing of sources to avoid brightness contrasts that will cause disability or discomfort. He must also realise the effect of these sources on the reflectances of colours he will be using.

Having given first importance to good vision in workrooms, there remain many other parts of buildings where the architect can be just a little more bold, daring or dramatic in his use of daylight. Acute vision is less important in entrance-halls, circulation- and cloak-rooms, dining-rooms, and even assembly-halls. In schools these spaces are tending to become one complicated and interconnected complex of space design. They can be spaces of great visual interest.

The paper also dealt at some length with the effect of building design on the choice of colour schemes. The paper also described the range of colours for use in schools which has been evolved by the Ministry of Education. It is known as the "Archrome" Range; the colours in the range have been in use by some educational authorities for some time. There is no question of its use becoming compulsory.

### Glasgow Centre

The fifth sessional meeting of the Glasgow Centre was held on February 5, when Messrs. H. G. Jenkins and A. H. McKeag delivered an address on their paper, "Luminescence as Applied to Lighting." To members of the Glasgow Centre this lecture gave a glimpse of the immense amount of research and laboratory investigations on which to-day rests the lighting industry. Detailed explanations of the various processes required to produce constant first-class-



quality fluorescent powders and factual chemical experiments before the audience conveyed most clearly the necessary skills required in lamp production. The authors showed the trend of present-day research towards ever better fluorescent lamp colours. The evening ended with a glimpse into the future of the possibility of chokeless fluorescent lamps.

The meeting was preceded at 6 p.m. by the annual general meeting of the Glasgow Centre. After the adoption of the secretary's and treasurer's reports the following Centre committee nominations for office (1953-54) were confirmed by the members present: Chairman, Mr. Quinn; vice-chairman, Mr. Bonn; secretary, Mr. A. M. Rankin; treasurer, Mr. J. Welsh; Mr. McKerron was elected to the committee. The members recorded their appreciation for Mr. F. Dunnett, who retires from the committee this year after having served for the past six years. Mr. Dunnett was chairman in 1951-52.

#### Manchester Centre

At the sessional meeting of the Manchester Centre, held on January 8, Mr. R. L. C. Tate presented a paper on "Lighting in the Food Industries," which formed a suitable occasion for having a joint meeting with the Association of Sanitary Inspectors.

Mr. Tate pointed out immediately that he would confine his remarks to the aspects of: (a) The preparation of cooked food for sale in the shops; (b) The display of food for sale to the general public; (c) The preparation and consumption of food in restaurants.

In dealing with the first aspect Mr. Tate explained that it was largely part of the general problem of industrial lighting with some processes involving severe visual tasks and others only casual viewing. But, he explained, there was justification for relatively high values of illumination even where the process was largely automatic, in order to promote cleanliness, and he considered that 15-20 f.t.c. was not excessive in these instances.

Mr. Tate then went on to deal with the lighting problems of special processes and illustrated, by means of lantern slides, the lighting solutions which might be employed. Reference was made to problems of colour rendering, and he stated that whilst accurate colour rendering was not a major problem generally there was need for it in certain cases, such as the inspection of bread and

biscuits, decorative icings, and meat. For instances of this nature he recommended the use of the "colour-matching" fluorescent lamp.

With regard to the second aspect dealing with the selling of food, Mr. Tate said that colour appearance was a major factor and that, in addition to the problem of providing a light with a suitable spectral energy distribution, the familiar colour problems of retinal fatigue and simultaneous colour contrast arose. Mr. Tate demonstrated these effects and then showed the effect of filament lighting and different types of fluorescent lighting on various common foods. He explained that it was not easy to select the best system of lighting since personal preference was an important factor.

Mr. Tate explained that he had experience of a number of tests designed to investigate the type of lighting best suited to various foods, and found that, generally speaking, a mixture of filament lighting and "colour-matching" fluorescent lighting was preferred. He emphasised that the level of illumination affected colour rendering.

An interesting discussion ensued in which members of the Association of Sanitary Inspectors took full part, stressing the need for guidance from members of the Society to associations such as theirs.

The vote of thanks to Mr. Tate was proposed by Mr. J. Graham, chairman of the Association of Sanitary Inspectors.

#### Nottingham Centre

There was a very large and representative audience on February 5 when Mr. H. R. Ruff, B.Sc., M.I.E.E., gave a lecture/demonstration under the title "New Lamps, New Uses and New Lighting Techniques." Mr. Ruff prefaced his remarks by referring to the introduction of electric discharge and fluorescent type lamps having greatly stimulated lighting practice and, with the help of lantern slides, he explained the principles of some of the newer lamps and also described the problems that had to be overcome before such lamps became of practical use. He went on to show the uses for such lamps and gave interesting examples of various types. A simple, but a most effective demonstration showed the reduction in shadows resulting from the use of the new silica-coated lamps.

He went on to show some of the developments of higher brightness sources using xenon and krypton and referred to the considerable overload for short periods which



could be effected without deterioration. One of the uses was to take colour photographs of the fundus of the eye. When meeting the demands of the photographer a new range of chemical flash and electronic discharge lamps had been developed and these were so fast that the human eye could not appreciate how short was the time of the flash.

Mr. Ruff then referred to the effect on lighting practice resulting from the development of phosphors and illustrated the fluorescence of natural and synthetic materials to black light, etc. He also referred to the growing use of low pressure mercury vapour discharge lamps to radiate short ultra violet rays capable of killing bacteria. Brief reference was made to the wide range of application of fluorescent lamps and a novel colour mixing cabinet was demonstrated which provided a light source the colour of which could be varied at will.

The discussion was opened by Mr. R. G. Payne and a vote of thanks—received with great acclamation—to Mr. Ruff and his assistants was proposed by Mr. A. Hacking.

#### Sheffield Centre

On February 2, before a large audience, Mr. M. W. Peirce presented a lecture on floodlighting which, in view of the Coronation, was of special interest.

Mr. Peirce concentrated on the decorative floodlighting of buildings. After briefly mentioning the calculations involved, he dealt, in detail, with the artistic side illustrating, with some excellent slides, the various problems encountered. It was stressed that laboratory models were extremely useful in helping to make decisions about positioning of lights. Slides taken from such a model showed clearly how viewpoint and lamp positions can alter the character of a building enormously. Mr. Peirce also spent some time discussing colour and the effective lighting of columns.

An interesting discussion was opened by Mr. E. G. R. Taylor and a vote of thanks to the speaker was proposed by Mr. Burton.

On February 9, Mr. W. R. Bloxsidge addressed the Centre. The title of his paper was "Specification and Testing of Fluorescent Lighting Fittings and Components." A good deal of information on the effects of humidity on lamp performance and on radio interference which was not included in the published paper was given. Interesting demonstrations were given by Mr. D. Chapman. A lengthy discussion took place before Mr. C. J. Chisholm proposed a vote of thanks to the speaker and his colleague.

## SITUATIONS VACANT

### CITY OF BIRMINGHAM PUBLIC WORKS DEPARTMENT

Applications are invited for the post of ASSISTANT ENGINEER, Public Lighting Section.

Candidates must be experienced in planning, installation and maintenance of street lighting. Experience in photometry will be an advantage.

Candidates must be Corporate Members of the Institution of Electrical Engineers or hold equivalent qualifications.

Salary within Grade A.P.T. VI (£670/735 per annum) according to qualifications and experience.

The post is permanent, superannuable, subject to a medical examination and to one month's notice on either side.

Applications, endorsed "Assistant Engineer—Public Lighting Section," stating age, qualifications, experience, and the names of two persons to whom reference can be made, should reach the undersigned not later than April 18, 1953.

H. J. MANZONI,  
City Engineer and Surveyor.

Civic Centre, Birmingham 1.

**LIGHTING ENGINEER** required for London office of Troughton and Young (Lighting), Ltd., to handle inquiries from architects, consultants, etc. I.E.S. Registered Lighting Engineer preferred. Replies, stating age, experience and salary required to Manager, Troughton and Young (Lighting), Ltd., 143, Knightsbridge, S.W.1.

Experienced electric lamp **SALESMAN** required for London territories by ELMA Manufacturer. Experience essential, age limit 35, good prospects. Apply in confidence to Box 844. Own staff advised.

## SITUATIONS WANTED

**REGISTERED LIGHTING ENGINEER**, aged 30 years, seeks position where capabilities as designer of fittings and installations will be fully utilised: has executive and supervisory experience, and is not afraid of hard work. Central or West London preferred, but will work anywhere if a progressive, responsible position is offered. Please write Box 845.

## AGENCIES WANTED

Mr. M. C. Toner, Registered Lighting Engineer I.E.S., of 17, Douglas Road, Hazel Grove, Stockport, who was formerly with Holophane, Ltd., and the Revo Electric Company, would be pleased to act as agent for firms in the lighting industry.

## POSTSCRIPT

The elimination of dazzle as a cause of road accidents is still far from being achieved. In Kent alone, during the last three months, 40 road accidents have been attributed to dazzling by headlights and, no doubt, the total for the whole country is much greater. But headlights are not the only culprits; many of our street lamps also are dazzling, although, if I am to believe the advertisement opposite my page in last month's journal, dazzle is banished from modern street lighting utilising a certain illuminant. Technically it is not difficult to light streets without dazzle; the problem is rather one of economics—and there's the rub! Of course, vehicle drivers can be dazzled in broad daylight, as everyone knows who has driven "into" the sun when its angle of elevation is small; and I know a particular east-to-west crossing which has been the scene of numerous accidents on this account. These accidents need not occur if visors and care are used. Dazzling by headlights is less easily avoided, though the need for its avoidance is well recognised.

In all the published references to the subject of the preceding paragraph which have come to my notice recently, I have been struck by the use of the term "dazzle" and not "glare." This usage is quite proper, for what is referred to is an overpowering and temporarily confusing or blinding light, and this is precisely one of the meanings of the word dazzle. This effect upon the sight is the disability meant by those who now so often speak or write of "disability glare." It is often not clear, however, whether this expression is used with reference to a cause, i.e., a visually disabling light, or to its effect, i.e., the condition experienced by anyone exposed to such a light, although glare has been defined internationally in terms of the effect. This condition is, in ordinary language, one of dazzlement. There is no corresponding word to denote the condition produced by glare which—also in ordinary language—is "oppressive light" (vide Oxford Dictionary). Hence the current dual use of "glare" to denote both cause and effect. It seems to me that, as a state of the person, "discomfort glare" can well be described as a state of oppression by light. In "disability glare" or dazzlement, there is also some temporary suppression or depression of the power of sight. My recollection is that before the introduction of these double-

barrelled terms "discomfort glare" and "disability glare" their meanings were ordinarily conveyed by the words glare and dazzle. Why keep the cumbersome new expressions when single well-known words are available?

Writing of lighting "lingo" brings to my mind another expression now in vogue but destined, I hope, soon to become unfashionable. I refer to the "quality" of lighting. A few weeks ago the House of Lords spent an hour trying to define "quality" and then gave it up. "Quality," said Lord Mancroft, "was admittedly a vague term." It has certainly been used vaguely with reference to lighting. In opening a discussion recently on the report on the Lighting of Office Buildings (Post-War Building Studies, No. 30, H.M.S.O.), Mr. P. V. Burnett remarked that lighting engineers often spoke of the "quality" of lighting though no one seemed able to say what it is. Perhaps, like the quality of mercy, the "quality" of lighting "droppeth as the gentle rain from heaven." More likely, however, the word is not the right one for the purpose it is meant to serve.

I believe that Birmingham became the first city in the country to put her flashing beacons on zebra crossings into operation when the lights at 20 of these crossings were switched on about six weeks ago. Four hundred crossings in the city have to be lighted and I understand that this is being done at the rate of 50 a week. Meanwhile, opposition has been raised by certain councillors to the installation of flashing lights on the six zebra crossings in Eastbourne's Memorial Square on the ground that they will "make the place look like Blackpool on August Bank Holiday." There is truth, however, in the contention of another councillor that if crossings in Eastbourne are unlighted, while they are lighted everywhere else, they may become death traps. Uniformity throughout the country is most important, but it may be that the crossings themselves are not essential in the Memorial Square which is well lighted by night. Writers to the daily Press continue to put forward conflicting views on the use of flashing beacons; one suggests there should be a campaign for the general adoption of sodium floodlights instead. Such floodlights were tried before the beacon method was decided upon.

## By "Lumeritas"

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